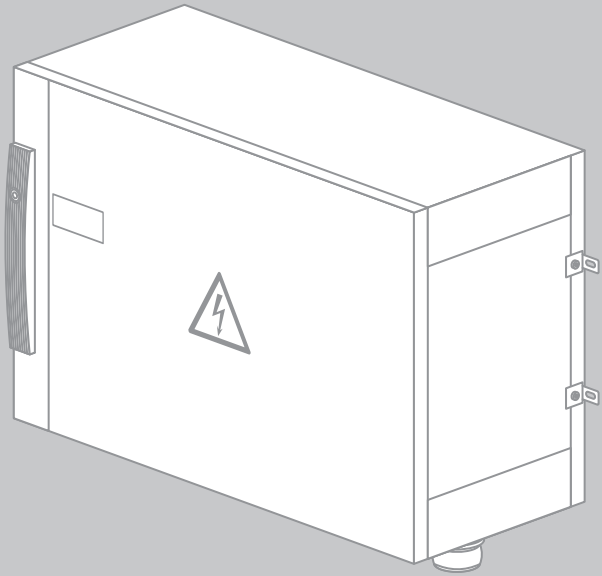
Accessories for Central Inverter

SUNNY MAIN BOX / SUNNY MAIN BOX CABINET

Installation Manual



SMB-IA-en-10 | 98-4031510 | Version 1.0

EN

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1 Information on this Document

Validity

This document is valid for the following device types:

- SMB
- SMB-C

Target Group

This document is intended for skilled persons. Only persons with appropriate skills are allowed to perform the tasks set forth in this document (see Section 2.2 "Qualification of Skilled Persons", page 8).

Additional Information

Links to additional information can be found at www.SMA-Solar.com:

Document title	Document type
Sunny Main Box - Connection of DC cabling for PV inverters	Technical Information
Sunny Main Box Cabinet - Connection of DC cabling for PV inverters	Technical Information

Symbols

Symbol	Explanation
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury
⚠ WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury
⚠ CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury
NOTICE	Indicates a situation which, if not avoided, could result in property damage
i	Information that is important for a specific topic or goal, but is not safety-relevant
☐	Indicates an essential requirement for achieving a specific goal
☑	Desired result
✖	A problem that might occur

Abbreviations

Abbreviation	Designation	Explanation
AC	Alternating Current	–
DC	Direct Current	–
LV/HRC	Low-Voltage, High Rupturing Capacity	–
PV	Photovoltaics	–

2 Safety

2.1 Intended Use

The Sunny Main Box and the Sunny Main Box Cabinet are DC main distributions which gather the outgoing string cables from the DC sub-distributions and lead them to the central inverter via the DC main cable.

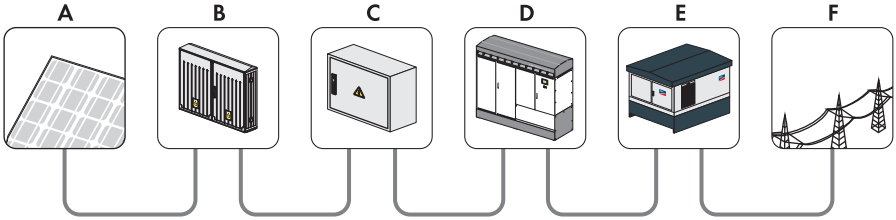


Figure 1: Overview of a PV plant with Sunny Main Boxes and a central inverter

Position	Designation
A	PV modules
B	DC sub-distribution (e.g. Sunny String-Monitor)
C	DC main distribution, e.g., Sunny Main Box
D	Central inverter
E	Transformer station, z. B. Transformer Compact Station
F	Electricity grid

For optimum operation of the Sunny Main Box or Sunny Main Box Cabinet, observe the requirements for the mounting location. For safety reasons, it is not permitted to modify the product or install components that are not explicitly recommended or distributed by SMA Solar Technology AG for this product.

The enclosed documentation is an integral part of this product.

- Read and observe the documentation.
- Keep the documentation in a convenient place for future reference.

Only use the Sunny Main Box and Sunny Main Box Cabinet in accordance with the information provided in the enclosed documentation. Any other use may result in personal injury or property damage.

2.2 Qualification of Skilled Persons

The work described in this document must be performed by skilled persons only. Skilled persons must have the following qualifications:

- Knowledge of how the device works and is operated
- Training in how to deal with the dangers and risks associated with installing and using electrical devices
- Training in the installation and commissioning of electrical devices
- Knowledge of all applicable standards and directives
- Knowledge of and compliance with this document and all the safety precautions

2.3 Safety Precautions

Electric Shock

High voltages capable of causing electric shocks are present in the Sunny Main Box and Sunny Main Box Cabinet. Therefore, work on the Sunny Main Box and Sunny Main Box Cabinet is permitted only with the power disconnected and in compliance with the guidelines applicable at the installation location.

- Disconnecting the device:
  - If there is a DC power switch in the upstream DC sub-distributions, switch it off.
  - Only remove the DC fuses on the central inverter once the inverter is disconnected and using the LV/HRC fuse handle.
  - If the central inverter is equipped with the "Optiprotect" option, switch the miniature circuit-breakers in the central inverter off.
  - Only pull out the DC fuse in the Sunny Main Box or Sunny Main Box Cabinet once the inverter is disconnected and using the LV/HRC fuse handle.
- Ensure that the device cannot be reconnected.
- Check that no voltage is present.
- Earth and short-circuit.
- Cover or shield any adjacent live components. Protective covers must always be in place.

In the event of an earth fault, remember that plant components which are presumed earthed may still be live.

- Ensure that no voltage is present before touching any plant components.

If the Sunny Main Box or Sunny Main Box Cabinet is operated in a damaged condition, there is a risk of serious injury by electric shock.

- Only use the Sunny Main Box or Sunny Main Box Cabinet when it is in perfect working order and can be operated safely.
- Regularly check the Sunny Main Box or Sunny Main Box Cabinet for visible damage.
- Ensure that all external safety equipment is freely accessible at all times and that regular checks are carried out to ensure that it is fully functional.

Burn Hazards

Some device components such as fuses can get hot during operation.

- Wear safety gloves when working on the device.

Damage to the Sunny Main Box or Sunny Main Box Cabinet

If unauthorised persons interfere with the Sunny Main Box, Sunny Main Box Cabinet or PV plant, the equipment could be damaged.

- Lock the devices once they have been put into operation.
- Remove the keys from the door locks.
- Store the keys in a safe place.

When closed, the Sunny Main Box and Sunny Main Box Cabinet correspond to International Protection Rating 54 and are thus protected from intrusion of dust and water. Penetrating moisture can damage the Sunny Main Box or Sunny Main Box Cabinet.

- Do not perform any installation work in rainy or foggy conditions, or when humidity is over 95%.
- After completion of work on the Sunny Main Box or Sunny Main Box Cabinet, lock the doors again.

3 Scope of Delivery

3.1 Sunny Main Box

Check the scope of delivery for completeness and any externally visible damage. Contact your specialist dealer if the delivery is incomplete or damaged.

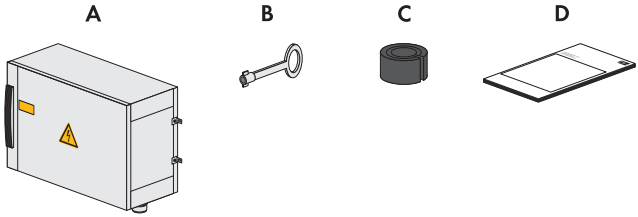


Figure 2: Components included in scope of delivery

Position	Quantity	Designation
A	1	Sunny Main Box
B	1	Switch cabinet key
C	8	Seal insert 7.0 mm ... 20.5 mm
	8	Seal insert 17.0 mm ... 20.5 mm
	16	Seal insert 20 mm ... 25 mm
	16	Seal insert 24 mm ... 28 mm
	8	Seal insert 29 mm ... 34 mm
	8	Seal insert 32 mm ... 36 mm
D	1	Installation manual

3.2 Sunny Main Box Cabinet

Check the scope of delivery for completeness and any externally visible damage. Contact your specialist dealer if the delivery is incomplete or damaged.

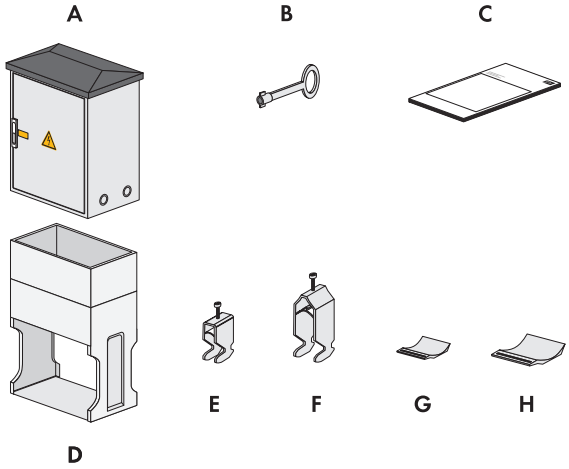


Figure 3: Components included in scope of delivery

Position	Quantity	Designation
A	1	Sunny Main Box Cabinet
B	1	Switch cabinet key
C	1	Installation manual
D	1	Base
E	25	Cable clamp 22 mm ... 28 mm
F	9	Cable clamp 28 mm ... 34 mm
G	25	Bottom saddle for cable clamp 22 mm ... 28 mm
H	9	Bottom saddle for cable clamp 28 mm ... 34 mm

4 Product Description

4.1 Sunny Main Box

The Sunny Main Box is a DC main distribution which gathers the outgoing string cables from the DC sub-distributions and leads them to the central inverter via the DC main cable.

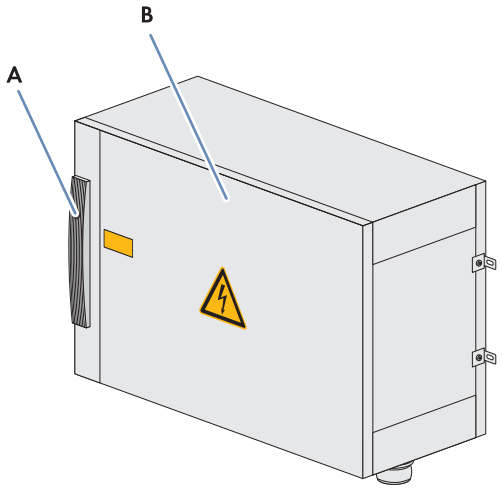


Figure 4: Components of the Sunny Main Box

Position	Designation
A	Switch cabinet lock
B	Door

The Sunny Main Box is standardly equipped with 8 inputs. The Sunny Main Box is mounted on the wall.

4.2 Sunny Main Box Cabinet

The Sunny Main Box Cabinet is a DC main distribution which gathers the outgoing string cables from the DC sub-distributions and leads them to the central inverter via the DC main cable.

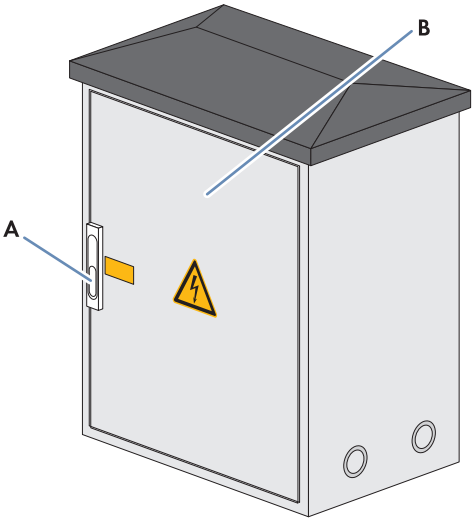


Figure 5: Components of the Sunny Main Box Cabinet

Position	Designation
A	Switch cabinet lock
B	Door

Depending on the version, the Sunny Main Box Cabinet is equipped with 2 x 8, 2 x 2 x 4 or 2 x 2 x 3 inputs. The Sunny Main Box Cabinet is mounted on a base and is equipped with a door on both front and rear sides.

4.3 Type Label

The type label provides clear identification of the Sunny Main Box or Sunny Main Box Cabinet. The Sunny Main Box and Sunny Main Box Cabinet are each fitted with 1 type label. The type label is located on the inside of the door.

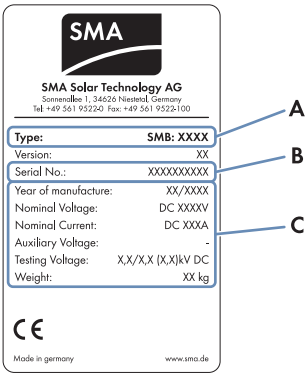


Figure 6: Layout of the type label (example)

Position	Designation	Explanation
A	Type	Device type and option code
B	Serial No.	Serial number of the Sunny Main Box or Sunny Main Box Cabinet
C	–	Device-specific characteristics

You will need the information on the type label to ensure safe use of the Sunny Main Box or Sunny Main Box Cabinet and when seeking customer support from the SMA Service Line.
The type label must be permanently affixed to the Sunny Main Box or Sunny Main Box Cabinet.

Symbols on the Type Label

Symbol	Designation	Explanation
	Danger to life due to high voltages	High voltages are present in the device. All work on the Sunny Main Box or Sunny Main Box Cabinet must be carried out by electrically skilled persons only.
	Risk of burns from hot surfaces	The product can get hot during operation. Avoid contact during operation. Wear your safety gloves.
	Observe the documentation.	Observe all documentation that is supplied with the product.
	CE marking	The product complies with the requirements of the applicable EC directives.
	WEEE designation	Do not dispose of the product together with the household waste but only in accordance with the locally applicable regulations for disposal of electronic waste.
	Degree of protection IP54	The product is protected against dust and water penetration. The Sunny Main Box and Sunny Main Box Cabinet are suitable for outdoor installation.

5 Assembly

5.1 Mounting the Sunny Main Box

5.1.1 Selecting the Mounting Location

⚠ DANGER

Danger to life due to fire or explosion

- Do not mount the Sunny Main Box on flammable construction materials.
- Do not mount the Sunny Main Box in areas containing highly flammable materials.
- Do not mount the Sunny Main Box in potentially explosive atmospheres.

Requirements for the mounting location:

☐ The mounting location should not be in a living or office area.

☐ The mounting location must not block any escape routes.

☐ The mounting location must be freely and safely accessible at all times without any need for auxiliary equipment (such as scaffolding or lifting platforms). Non-fulfillment of these criteria may restrict servicing.

☐ The mounting location must be suitable for the weight and size of the Sunny Main Box (see Section 10 "Technical Data", page 29).

☐ The mounting location must not be exposed to direct solar irradiation.

5.1.2 Mounting the Sunny Main Box on a Wall

⚠ CAUTION

Danger of crushing if the Sunny Main Box is dropped.

- When mounting the Sunny Main Box, remember that it weighs 35 kg.
- Always have 2 people mount the Sunny Main Box.

NOTICE

Damage to cable glands due to careless transport and installation.

Cable glands protrude from the enclosure of the Sunny Main Box. These cable glands may be damaged if transport and installation are carried out without due care and attention.

- During transport and installation, take care not to damage the cable glands.

Additionally required mounting material (not included in the scope of delivery):

- 4 M8 screws. Take wall properties into account when choosing the type of screws.
- 4 washers
- If necessary, 4 wall plugs. Take wall properties into account when choosing the wall plugs.

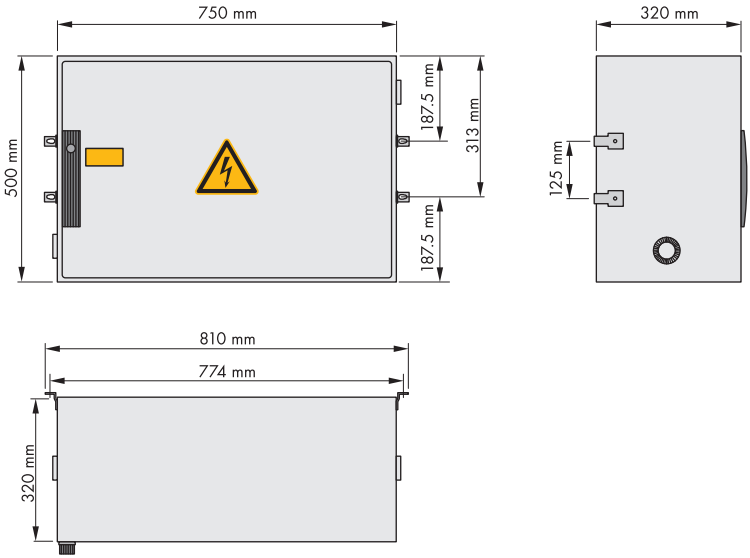
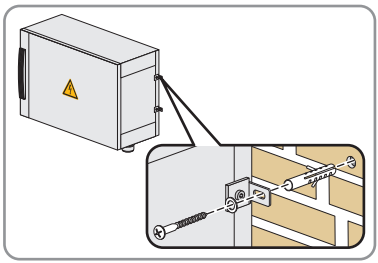


Figure 7: Dimensions of the Sunny Main Box

1. Mark the position of the drill holes on the wall or array substructure.
2. Drill holes at the marked positions.
3. If necessary, insert wall plugs.
4. Fasten the Sunny Main Box to the wall or array substructure using suitable screws and washers.



5. Make sure that the Sunny Main Box is securely in place.

5.2 Mounting the Sunny Main Box Cabinet

5.2.1 Selecting the Mounting Location

⚠ DANGER

Danger to life due to fire or explosion

- Do not mount the Sunny Main Box Cabinet on flammable construction materials.
- Do not mount the Sunny Main Box Cabinet in areas containing highly flammable materials.
- Do not mount the Sunny Main Box Cabinet in potentially explosive atmospheres.

Requirements for the mounting location:

☐ The mounting location should not be in a living or office area.

☐ The mounting location must not block any escape routes.

☐ The mounting location must be freely and safely accessible at all times without any need for auxiliary equipment (such as scaffolding or lifting platforms). Non-fulfillment of these criteria may restrict servicing.

☐ The foundation at the mounting location must be suitable for the weight and size of the Sunny Main Box Cabinet (see Section 10 "Technical Data", page 29).

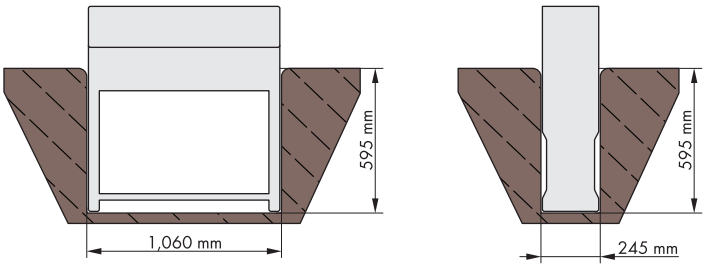
☐ The mounting location must not be exposed to direct solar irradiation.

5.2.2 Mounting the Base

⚠ CAUTION

Danger of crushing if the base of the Sunny Main Box Cabinet is dropped

- During transport, take into account the weight of the base of the Sunny Main Box Cabinet of 19 kg.



1. Dig the foundation pit. Observe a base installation depth of 600 mm.

2. Place the base of the Sunny Main Box Cabinet in the excavated pit in such way that the side with the kick plate points to the front.
3. Remove the upper kick plate.
4. Presort the connection cables according to position and lay them in the base.
5. Half-fill the pit with gravel or sand. Gravel size: 2 mm ... 4 mm.
6. **NOTICE**

   Damage to the Sunny Main Box Cabinet due to moisture penetration

   Penetrating moisture can lead to condensation, corrosion, and leakage currents. The use of a base filler stops condensation forming.

   - Fill the remaining space around the base with base filler. Filler size: 4 mm ... 8 mm.

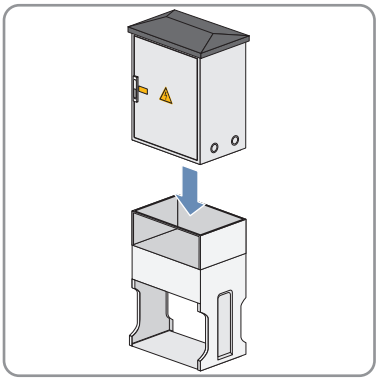
5.2.3 Mounting the Sunny Main Box Cabinet on the Base

⚠ CAUTION

Danger of crushing if the Sunny Main Box Cabinet is dropped.

- When mounting the Sunny Main Box Cabinet, take its weight of 96 kg into account.
- Transport the Sunny Main Box Cabinet using appropriate hoist.

1. Remove the 4 fastening screws from the base plate of the Sunny Main Box Cabinet.
2. Place the Sunny Main Box Cabinet on the base.



3. Fasten the Sunny Main Box Cabinet to the base with the previously removed screws (torque: 10 Nm)
4. Ensure that the Sunny Main Box Cabinet is securely attached.
5. Lead the connection cables through the base plate into the Sunny Main Box Cabinet and fasten to the internal cable support rail.
6. To prevent the upper kick plate being opened by unauthorised persons, insert the 2 safety screws on the inside of the base plate.

6 Electrical Connection

6.1 Overview of the Connection Area

6.1.1 Sunny Main Box

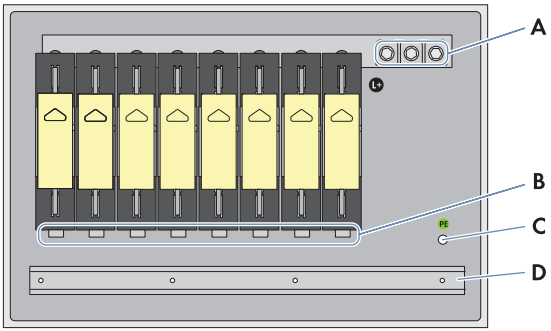


Figure 8: Connection area of the Sunny Main Box

Position	Designation
A	DC output
B	DC input
C	Earth cable connection
D	Cable support rail

6.1.2 Sunny Main Box Cabinet

Sunny Main Box Cabinet with 2 x 8 inputs

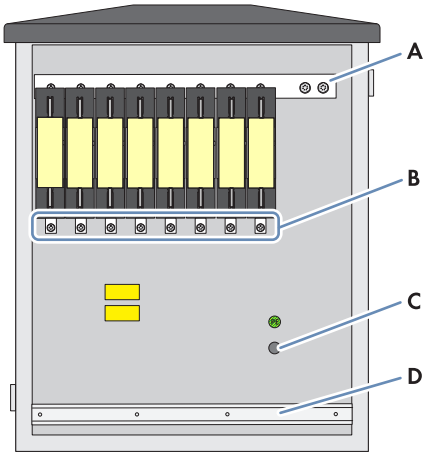


Figure 9: Connection area of the Sunny Main Box Cabinet with 2 x 8 inputs

Position	Designation
A	DC output
B	DC input
C	Earth cable connection
D	Cable support rail

Sunny Main Box Cabinet with 2 x 2 x 4 inputs

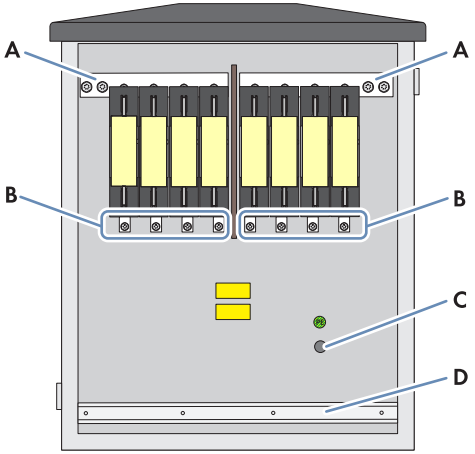


Figure 10: Connection area of the Sunny Main Box Cabinet with 2 x 2 x 4 inputs

Position	Designation
A	DC output
B	DC input
C	Earth cable connection
D	Cable support rail

Sunny Main Box Cabinet with 2 x 2 x 3 inputs

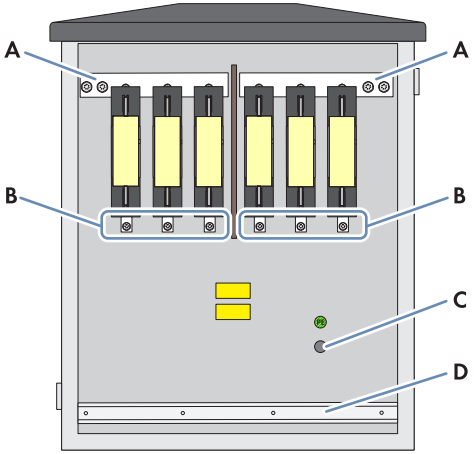


Figure 11: Connection area of the Sunny Main Box Cabinet with 2 x 2 x 3 inputs

Position	Designation
A	DC output
B	DC input
C	Earth cable connection
D	Cable support rail

6.2 Connecting the String Cables to the Fuse Holders

1. Lead the string cables through the cable glands into the enclosure interior. Make sure polarity is correct.
2. Tighten the cable glands.
3. Cut the string cables to length and strip the insulation.
4. Attach the string cables to the internal cable support rail.
5. Connect the string cables to the bolt clamps of the fuse holders (torque: 35 Nm). Make sure polarity is correct.

6.3 Connecting the DC Input Cables

⚠ DANGER

Lethal electric shock due to live voltage

High voltage is present in the DC sub-distributions. Failure to adhere to safety warnings may lead to severe or lethal injuries from electric shock.

- Observe all safety rules.
  - Disconnect
  - Ensure that the device cannot be reconnected
  - Check that no voltage is present
  - Earth and short-circuit
  - Cover or shield any adjacent live components.

Requirements:

☐ The correct conductor cross-section for the DC input cables has been selected.

☐ The DC sub-distributions are switched off.

1. Strip 35 mm insulation off the DC input cables.
2. Fit suitable terminal lugs to the DC input cables (see Section 10 "Technical Data", page 29).
3. Lead the DC input cables through cable glands into the enclosure interior. Make sure polarity is correct.
4. Tighten the cable glands.
5. Connect the DC input cables to bolt clamps (torque: 30 Nm ... 35 Nm).
6. Ensure that the DC input cables are securely in place.

6.4 Connecting the Earth Cable

Requirement:

☐ Earth cable cross-section: at least 16 mm^2

1. Strip the earth cable by 16 mm.
2. Fit suitable terminal lugs to the earth cable (see Section 10 "Technical Data", page 29).
3. Lead the earth cable through a cable gland into the enclosure interior.
4. Tighten the cable gland.
5. Connect the earth cable to the earthing bolts (torque: 14 Nm).
6. Ensure that the earth cable is securely in place.
7. Earth the earth cable in the vicinity of the Sunny Main Box or Sunny Main Box Cabinet, for example, with an earth rod.

7 Requirements for Commissioning

During commissioning of the Sunny Main Box or Sunny Main Box Cabinet, the commissioning report must be filled in. The commissioning report is enclosed with the central inverter.

Requirements:

- ☐ The DC input cables are connected to the inverter and are activated. There is no reverse voltage from the inverter.
- ☐ All connections are executed according to this manual (see Section 6 "Electrical Connection", page 20).
- ☐ It has been verified that all fuses are firmly in place.
- ☐ The ground around the Sunny Main Box or Sunny Main Box Cabinet is paved and provides suitable access.

8 Disconnecting the Sunny Main Box or Sunny Main Box Cabinet

⚠ DANGER

Danger to life due to electric shock when live components are touched.

High voltages are present in the central inverter, the DC sub-distributions and the Sunny Main Box or Sunny Main Box Cabinet. Failure to adhere to safety warnings may lead to severe or lethal injuries from electric shock.

- Observe the following safety rules when disconnecting:
  - Disconnect.
  - Ensure that the device cannot be reconnected.
  - Check that no voltage is present.
  - Earth and short-circuit.
  - Cover or shield any adjacent live components.

⚠ DANGER

Danger to life due to electric shock

Hazardous voltages may still be present in the inverter even if the AC and DC main switches are switched off.

- After disconnecting the inverter, wait at least 15 minutes for the capacitors to discharge completely.

⚠ CAUTION

Risk of burns from touching hot components

The components of the DC sub-distributions and the central inverter can get very hot. Touching these components may cause burns.

- Do not touch hot components.
- Wait until hot components have cooled down sufficiently.
- Observe all safety warnings in the DC sub-distributions and the inverter.
- Wear safety gloves when working on the device.

Procedure:

1. **⚠ DANGER**

   Danger to life due to electric shock

   - Only open the disconnection unit of the Sunny String-Monitor when it is switched off.

   – Disconnect the DC sub-distributions (see installation manual of these devices).
2. Disconnect central inverter (see installation manual of the central inverter).
3. If there are DC fuses in the central inverter, only pull them out once the inverter is disconnected and using the LV/HRC fuse handle.
4. If there are no DC fuses in the central inverter, pull out the fuses in the DC main distribution.
5. Release all screw connections.

9 Decommissioning

9.1 Dismantling Sunny Main Box and Sunny Main Box Cabinet

Requirement:

☐ Sunny Main Box or Sunny Main Box Cabinet are disconnected (see Section 8 "Disconnecting the Sunny Main Box or Sunny Main Box Cabinet", page 26).

1. Remove the fuses.
2. Release cables from the cable fastenings.
3. Release all cable glands.

9.2 Disposing of Sunny Main Box and Sunny Main Box Cabinet

- Dispose of the Sunny Main Box or Sunny Main Box Cabinet in accordance with the locally applicable disposal regulations for electronic waste.

  or

  Return the Sunny Main Box or Sunny Main Box Cabinet to SMA Solar Technology AG at your own expense (see Section 11 "Contact", page 34). Label the packaging "ZUR ENTSORGUNG" ("FOR DISPOSAL").

10 Technical Data

	Sunny Main Box	Sunny Main Box Cabinet	Sunny Main Box Cabinet	Sunny Main Box Cabinet
Option	8 inputs	2 x 8 inputs	2 x 2 x 4 inputs	2 x 2 x 3 inputs
Enclosure				
Outdoor installation	shaded	shaded	shaded	shaded
Type of mounting: on base	no	yes	yes	yes
Type of mounting: on wall	yes	no	no	no
Mechanical Data of Base				
Width x height x depth	–	785 mm x 950 mm x 480 mm	785 mm x 950 mm x 480 mm	785 mm x 950 mm x 480 mm
Installation depth of the base	–	600 mm	600 mm	600 mm
Total weight of enclosure and base	–	115 kg	115 kg	115 kg
Mechanical Data of Enclosure				
Width x height x depth	750 mm x 500 mm x 320 mm	800 mm x 950 mm x 550 mm	800 mm x 950 mm x 550 mm	800 mm x 950 mm x 550 mm
Depth of lock cylinder	40 mm	40 mm	40 mm	40 mm
Weight	35 kg	96 kg	96 kg	96 kg
Input Data				
Maximum permissible DC voltage	1,000 V	1,000 V	1,000 V	1,000 V
Number of DC inputs	8	2 x 8	2 x 2 x 4	2 x 2 x 3
Maximum number of LV/HRC fuses	8	16	16	12

	Sunny Main Box	Sunny Main Box Cabinet	Sunny Main Box Cabinet	Sunny Main Box Cabinet
Option	8 inputs	2 x 8 inputs	2 x 2 x 4 inputs	2 x 2 x 3 inputs
Maximum number of disconnect blades	8	8	8	6
Possible sizes of LV/HRC fuses	80 A / 100 A / 125 A / 160 A	80 A / 100 A / 125 A / 160 A	80 A / 100 A / 125 A / 160 A	80 A / 100 A / 125 A / 160 A / 200 A
Maximum operating current per measuring input with 80 A LV/HRC fuse	52 A	52 A	52 A	52 A
Maximum operating current per measuring input with 100 A LV/HRC fuse	65 A	65 A	65 A	65 A
Maximum operating current per measuring input with 125 A LV/HRC fuse	81 A	81 A	81 A	81 A
Maximum operating current per measuring input with 160 A LV/HRC fuse	104 A	104 A	104 A	104 A

	Sunny Main Box	Sunny Main Box Cabinet	Sunny Main Box Cabinet	Sunny Main Box Cabinet
Option	8 inputs	2 x 8 inputs	2 x 2 x 4 inputs	2 x 2 x 3 inputs
Maximum operating current per measuring input with 200 A LV/HRC fuse	–	–	–	130 A
DC input				
Screws for fuse holders	M 10	M 10	M 10	M 10
Torque	30 Nm ... 35 Nm	30 Nm ... 35 Nm	30 Nm ... 35 Nm	30 Nm ... 35 Nm
Cable gland	8 x M40	–	–	–
Sealing range	14 mm ... 28 mm	–	–	–
Seal insert pre-mounted	14 mm ... 18 mm	–	–	–
Seal insert included in scope of delivery	7 mm ... 20.5 mm / 20 mm ... 25 mm / 24 mm ... 28 mm	–	–	–
Maximum cable cross-section	240 mm^2	240 mm^2	240 mm^2	240 mm^2
DC output				
Diameter of through-hole in busbar	3 x 13 mm	2 x 3 x 13 mm	2 x 2 x 2 x 13 mm	2 x 2 x 2 x 13 mm
Maximum cross-section of standard terminal lug	240 mm^2	240 mm^2	240 mm^2	240 mm^2
Screws included in scope of delivery	3 x M12 / 2 x M12*	2 x 3 x M12	2 x 2 x 2 x M12	2 x 2 x 2 x M12
Torque	74 Nm	74 Nm	74 Nm	74 Nm

	Sunny Main Box	Sunny Main Box Cabinet	Sunny Main Box Cabinet	Sunny Main Box Cabinet
Option	8 inputs	2 x 8 inputs	2 x 2 x 4 inputs	2 x 2 x 3 inputs
Cable gland	3 x M40 / 2 x M50*	–	–	–
Sealing range	14 mm ... 28 mm / 27 mm ... 36 mm*	–	–	–
Seal insert pre-mounted	14 mm ... 28 mm / 27 mm ... 36 mm	–	–	–
Seal insert included in scope of delivery	17 mm ... 20.5 mm / 20 mm ... 25 mm / 24 mm ... 28 mm / 29 mm ... 34 mm / 32 mm ... 36 mm	–	–	–
Protective conductor				
Maximum cross-section of standard terminal lug	95 mm^2	240 mm^2	240 mm^2	240 mm^2
Stud bolt	M8	M12	M12	M12
Torque	14 Nm	74 Nm	74 Nm	74 Nm
Cable gland	M32	–	–	–
Sealing range	9 mm ... 20.5 mm	–	–	–
Seal insert pre-mounted	9 mm ... 13 mm	–	–	–
Seal insert included in scope of delivery	11.5 mm ... 15.5 mm / 14 mm ... 18 mm / 17 mm... 20.5 mm	–	–	–
Degree of Protection and Ambient Conditions				
Degree of protection	IP54	IP54	IP54	IP54
Permissible ambient conditions	–25°C ... +40°C	–25°C ... +40°C	–25°C ... +40°C	–25°C ... +40°C
Relative humidity	15% ... 95%	15% ... 95%	15% ... 95%	15% ... 95%

	Sunny Main Box	Sunny Main Box Cabinet	Sunny Main Box Cabinet	Sunny Main Box Cabinet
Option	8 inputs	2 x 8 inputs	2 x 2 x 4 inputs	2 x 2 x 3 inputs
Maximum height above MSL	1,000 m	1,000 m	1,000 m	1,000 m

* With smaller stud bolts, allow for proportionately smaller cable gland and sealing range.

11 Contact

If you have technical problems concerning our products, contact the SMA Service Line. We require the following information in order to provide you with the necessary assistance:

- Device type and serial number of the Sunny Main Box
- Device type and serial number of the Sunny Main Box Cabinet
- Type and number of connected PV modules

SMA Solar Technology AG
Sonnenallee 1
34266 Niestetal, Germany
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Tel. +49 561 9522 299
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E-Mail: SunnyCentral.Service@SMA.de

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